

AMENDMENTS TO THE CLAIMS

AP20 Rec'd PCTPTO 10 MAR 2006

We claim:

original
Claim 1 (~~currently amended~~): A process for preparing ortho-, meta- or para-xylylenediamine, comprising the steps of:
ammonoxidizing ortho-, meta- or para-xylene to o-phthalonitrile iso- or terephthalonitrile and hydrogenating the phthalonitrile,
which comprises contacting the vaporous product of the ammonoxidation stage directly with a liquid organic solvent, which has a lower boiling point than the phthalonitrile, or with molten phthalonitrile (quench),
removing components having a boiling point lower than phthalonitrile (low boilers) from the resulting quench solution or suspension or phthalonitrile melt,
before the hydrogenation of the phthalonitrile, not removing any products having a boiling point higher than phthalonitrile (high boilers) and
carrying out the hydrogenation in the absence of an organic solvent.

Claim 2 (~~currently amended~~): The process according to claim 1 ~~for preparing meta-xylylenediamine~~, comprising the steps of ammonoxidizing meta-xylene to isophthalonitrile and hydrogenating the isophthalonitrile in order to prepare meta-xylylenediamine.

Claim 3 (~~currently amended~~): The process according to claim 1 ~~either of claims 1 and 2~~, wherein the liquid organic solvent used for the quench is an aromatic hydrocarbon, a heterocyclic compound, an aromatic nitrile and/or a heterocyclic nitrile.

Claim 4 (~~currently amended~~): The process according to claim 1 ~~either of claims 1 and 2~~, wherein the liquid organic solvent used for the quench is tolunitrile, benzonitrile and/or N-methyl-2-pyrrolidone (NMP).

Claim 5 (~~currently amended~~): The process according to claim 1 ~~any of the preceding claims~~, wherein, in the quench with a liquid organic solvent, the temperature of the quench effluent is from 40 to 180°C, and, in the quench with molten phthalonitrile, the temperature of the quench effluent is from 165 to 220°C.

Claim 6 (~~currently amended~~): The process according to claim 1 ~~any of the preceding claims~~, wherein the low boilers are partly or fully removed from the resulting quench solution or suspension or phthalonitrile melt by distillation via the top, while phthalonitrile is removed

via the bottom together with products having a boiling point higher than phthalonitrile (high boilers).

Claim 7 (currently amended): The process according to claim 1 ~~any of claims 1 to 5~~, wherein the quench of the vaporous product of the ammoxidation stage is carried out in a column in such a way that reaction gases and low boilers are partly or fully removed via the top and phthalonitrile together with products having a boiling point higher than phthalonitrile (high boilers) are removed via the bottom.

Claim 8 (currently amended): The process according to claim 1 ~~any of the preceding claims~~, wherein the ammoxidation is carried out at temperatures of from 300 to 500°C over a catalyst comprising V, Sb and/or Cr, as an unsupported catalyst or on an inert support.

Claim 9 (currently amended): The process according to claim 1 ~~any of the preceding claims~~, wherein the hydrogenation is carried out in the presence of ammonia.

Claim 10 (currently amended): The process according to claim 1 ~~any of the preceding claims~~, wherein the hydrogenation is carried out at temperatures of from 40 to 150°C over a catalyst comprising Ni, Co and/or Fe, as an unsupported catalyst or on an inert support.

Claim 11 (currently amended): The process according to claim 1 ~~any of the preceding claims~~, wherein, after the hydrogenation, the xylylenediamine is purified by distilling off any solvent used and ammonia, and also any relatively low-boiling by-products, via the top and distillatively removing relatively high-boiling impurities via the bottom.

Claim 12 (currently amended): The process according to claim 1 ~~any of the preceding claims~~, wherein, after the hydrogenation, any solvent used and ammonia, and also any relatively low-boiling by-products, are distilled off via the top and, afterwards, any relatively high-boiling impurities are removed from the xylylenediamine by distillation via the bottom.

Claim 13 (currently amended): The process according to claim 11 ~~either of the two preceding claims~~, wherein the xylylenediamine, after the distillation, is extracted for further purification with an organic solvent.

Claim 14 (currently amended): The process according to claim 13 ~~the preceding claim~~, wherein cyclohexane or methylcyclohexane is used for the extraction.

Claim 15 (new): The process according to claim 2, wherein the liquid organic solvent used for the quench is an aromatic hydrocarbon, a heterocyclic compound, an aromatic nitrile and/or a heterocyclic nitrile.

Claim 16 (new): The process according to claim 2, wherein the liquid organic solvent used for the quench is tolunitrile, benzonitrile and/or N-methyl-2-pyrrolidone (NMP).

Claim 17 (new): The process according to claim 2, wherein, in the quench with a liquid organic solvent, the temperature of the quench effluent is from 40 to 180°C, and, in the quench with molten phthalonitrile, the temperature of the quench effluent is from 165 to 220°C.

Claim 18 (new): The process according to claim 3, wherein, in the quench with a liquid organic solvent, the temperature of the quench effluent is from 40 to 180°C, and, in the quench with molten phthalonitrile, the temperature of the quench effluent is from 165 to 220°C.

Claim 19 (new): The process according to claim 2, wherein, in the quench with a liquid organic solvent, the temperature of the quench effluent is from 40 to 180°C, and, in the quench with molten phthalonitrile, the temperature of the quench effluent is from 165 to 220°C.

Claim 20 (new): The process according to claim 2, wherein the low boilers are partly or fully removed from the resulting quench solution or suspension or phthalonitrile melt by distillation via the top, while phthalonitrile is removed via the bottom together with products having a boiling point higher than phthalonitrile (high boilers).